DEFENSE REUTILIZATION AND MARKETING OFFICE SITE (SS-011)

RECORD OF DECISION

Plattsburgh Air Force Base
Plattsburgh, New York

DRAFT
JANUARY 1993

Plattsburgh Air Force Base Installation Restoration Program

Prepared by:
URS Consultants, Inc.
282 Delaware Avenue
Buffalo, New York 14202

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INSTALLATION RESTORATION PROGRAM

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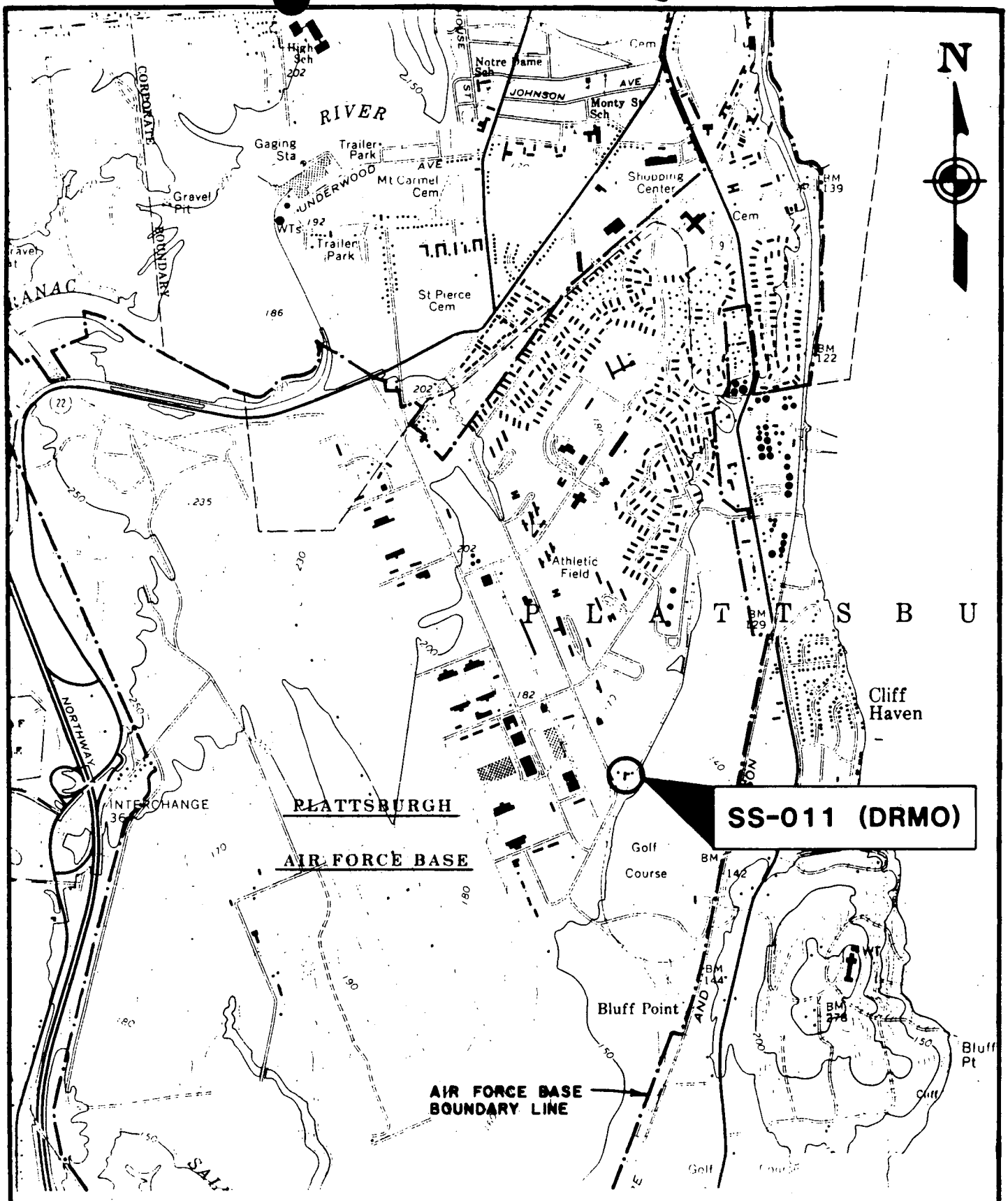
1.0 SITE NAME, LOCATION, AND DESCRIPTION

Plattsburgh AFB is located in Clinton County in northeastern New York State, bordered on the north by the city of Plattsburgh and on the east by Lake Champlain (Figure 1-1). It lies approximately 26 miles south of the Canadian border and 167 miles north of Albany. Site SS-011, the Defense Reutilization and Marketing Office (DRMO), is part of base industrial operations. It is located along the eastern side of Idaho Avenue, with an unused railroad track running the length of the site's southeast border (Figure 1-2). This office handles Air Force-discarded materials that may have reclaimable components. Typical items handled at the DRMO include out-of-service transformers and used refrigerators. The facility consists of several small buildings that serve as both covered storage and administrative offices, and a large adjacent paved area used as open storage (Figure 1-3). For security, the entire facility is enclosed by a chain-link fence that is locked during nonworking hours. Northeast of the site are approximately 90 wooded acres with recreational trails used by base personnel. The base golf course is to the south and within several hundred feet of SS-011.

A more complete description of SS-011 may be found in the Defense Reutilization and Marketing Office (SS-011) Remedial Investigation Report, Section 3.0 - Physical Site Characteristics.



MAP SOURCE:
USGS 7.5 MINUTE SERIES QUADRANGLE
PLATTSBURGH, N.Y - VT. (1966)

A-4707

URS CONSULTANTS, INC.	SITE LOCATION MAP: SS-011	FIGURE 1-2

2.0 SITE HISTORY

In accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Plattsburgh AFB is publishing this Record of Decision (ROD) to address public review and comment on the selected alternative. Plattsburgh AFB, in consultation with USEPA and NYSDEC, will consider public comments in selecting the remedy for SS-011. This ROD summarizes the results and conclusions of the Remedial Investigation (RI), Risk Assessment (RA), and Proposed Plan.

2.1 Land Use and Response History

SS-011 is located on the eastern side of the base along Idaho Avenue (See Figure 1-2). Containers of pesticides containing DDT (4,4'-dichlorodiphenyltrichloroethane) were stored at the site from 1970 to 1972. During that time, the contents of one or more of the storage containers leaked or was spilled. Spillage ran off the paved open storage area and into soils along the railroad tracks on the yard's eastern side. Because pesticides in general are only slightly soluble in water, it is common practice to dissolve them in a petroleum-based carrier (i.e., kerosene).

In December 1981, a transformer (PCB oil) spill occurred in the northwest corner of the paved area. The transformer fluids were cleaned off the frozen pavement surface and the area was excavated the following spring.

Several site investigations have been conducted at SS-011 as part of the Installation Restoration Program (IRP) at Plattsburgh AFB. A Preliminary Assessment evaluated whether the site was potentially contaminated and required further investigation. The Preliminary Assessment prompted a Site Inspection (SI) to confirm the presence of contamination. SI activities included a Soil Organic Vapor (SOV) survey, surface soil sampling, soil borings, monitoring well installation, and an associated analytical program. Because SI results indicated the presence of contaminants, an RI was conducted to characterize the nature and extent of contamination at SS-011. RI activities included the installation of additional monitoring wells, the sampling and analysis of surface and subsurface soils, and the implementation of an extensive field screening program to determine the areal and subsurface distribution of DDT.

On January 18, 1990, USEPA and NYSDEC concurred that a non-time-critical removal action was warranted to facilitate rapid cleanup of DDT-contaminated soils at SS-011. A comparative analysis of the alternatives was performed in 1990 as part of an Engineering Evaluation/Cost Analysis, and a remedial alternative that was protective of human health and the environment, ARAR-compliant, readily implementable, and cost-effective was selected. Details are provided in Section 4.0 of this document. In summary, approximately 400 feet of railroad track was removed and 600 cubic yards of contaminated soil were excavated and removed from the site.

Subsequent to the removal action, additional soil samples were taken to confirm the extent of DDT in soils. A risk assessment (RA) was then completed to determine the impact of remaining site contaminants upon human health and the environment. A summary of field investigations undertaken at SS-011 is given in Table 2-1.

2.2 Federal Facilities Agreement History

Activities at SS-011 have been conducted as part of the Defense Environmental Restoration Program (DERP), which was established to clean up hazardous waste disposal and spill sites at Department of Defense facilities nationwide. The Installation Restoration Program (IRP) is the U.S. Air Force subcomponent of the DERP. The IRP operates under the scope of CERCLA, as amended by the 1986 Superfund Amendments and Reauthorization Act.

The IRP at Plattsburgh AFB has included (1) a Preliminary Assessment to evaluate which sites are potentially contaminated, (2) SIs to confirm the presence or absence of contamination at identified sites, and (3) an ongoing RI program at sites confirmed to have contamination. On November 21, 1989, Plattsburgh AFB was included on the National Priorities List (NPL) of sites and will be remediated according to the federal facilities agreement entered into among the U.S. Air Force, USEPA, and NYSDEC.

4.0 SCOPE AND ROLE OF REMOVAL ACTION

On January 18, 1990, USEPA and NYSDEC Project Managers for Plattsburgh AFB concurred that a non-time-critical removal action was warranted to facilitate rapid cleanup of DDT-contaminated soils detected during the 1988 sampling for the RI (Phase I) at Site SS-011. The objectives of the removal action were to reduce risk to human health and the environment posed by direct contact with and/or ingestion of DDT-contaminated site soil.

To identify the level to which soils would require removal, a Target Cleanup Level evaluation was performed (E.C. Jordan, 1990a). Following evaluation of human health and ecological risks, it was determined that of the two receptors, the non-human (i.e., ecological) receptors were at greater risk from DDT. Using ecological risk assessment techniques, three environmental Target Cleanup Levels for DDT were evaluated to assess their impact on the environment: 1 mg/kg, 10 mg/kg, and 100 mg/kg. Based on the results of this evaluation, a final Target Cleanup Level of 10 mg/kg was selected. This level was further evaluated to assess the residual risk to human health associated with this concentration of DDT in site soils. This Target Cleanup Level, which was considered to be protective of ecological and human receptors, was approved by NYSDEC and USEPA on July 23, 1990.

An Engineering Evaluation/Cost Analysis (E.C. Jordan, 1990c) was prepared to document removal action objectives, Target Cleanup Level evaluation, and removal action alternatives. Because DDT is listed as U061 (a hazardous waste according to 40 CFR Part 261), placement of excavated DDT-contaminated soil is regulated under the RCRA Land Disposal Restrictions (LDRs), 40 CFR Part 268. Alternatives for treatment and disposal of the excavated soil were developed with regard to LDR treatment standards and schedules. Each of the alternatives included excavation of all soil above the 10 mg/kg Target Cleanup Level. The selected action, involved excavation, offsite land disposal of soil containing less than 1,000 mg/kg of DDT (in a RCRA landfill), and offsite incineration of soil containing greater than or equal to 1,000 mg/kg DDT. This alternative was selected because it would be protective of human health and the environment, ARAR-compliant, readily implementable, and cost-effective.

The removal action was initiated in August 1991 by TRICIL Environmental Response of Chattanooga, Tennessee. Approximately 400 feet of railroad track was removed and 600 cubic yards of soil were excavated.

Railroad ties, ballast, grubbed materials, and excavated soils containing less than 1,000 mg/kg of DDT were transported off site by a licensed hazardous waste hauler to the GSX Services Landfill in Pinewood, South Carolina. Soils containing DDT at 1,000 mg/kg or greater (45 cubic yards) were transported to the Trade Waste, Inc., incinerator in Sauget, Illinois. Transportation vehicles were decontaminated before leaving the site.

Sampling and analysis were conducted concurrently during excavation activities by TRICIL to confirm that all soils exceeding the 10 mg/kg target level had been excavated and to determine which excavated soils contained greater than or less than 1,000 mg/kg of DDT. Ninety-eight (98) samples were collected by TRICIL and analyzed by quick laboratory turnaround for DDT, DDE, and DDD. Twenty (20) percent of the samples were collected in duplicate and shipped to a USEPA-approved laboratory for analysis. Twenty (20) sample locations within the

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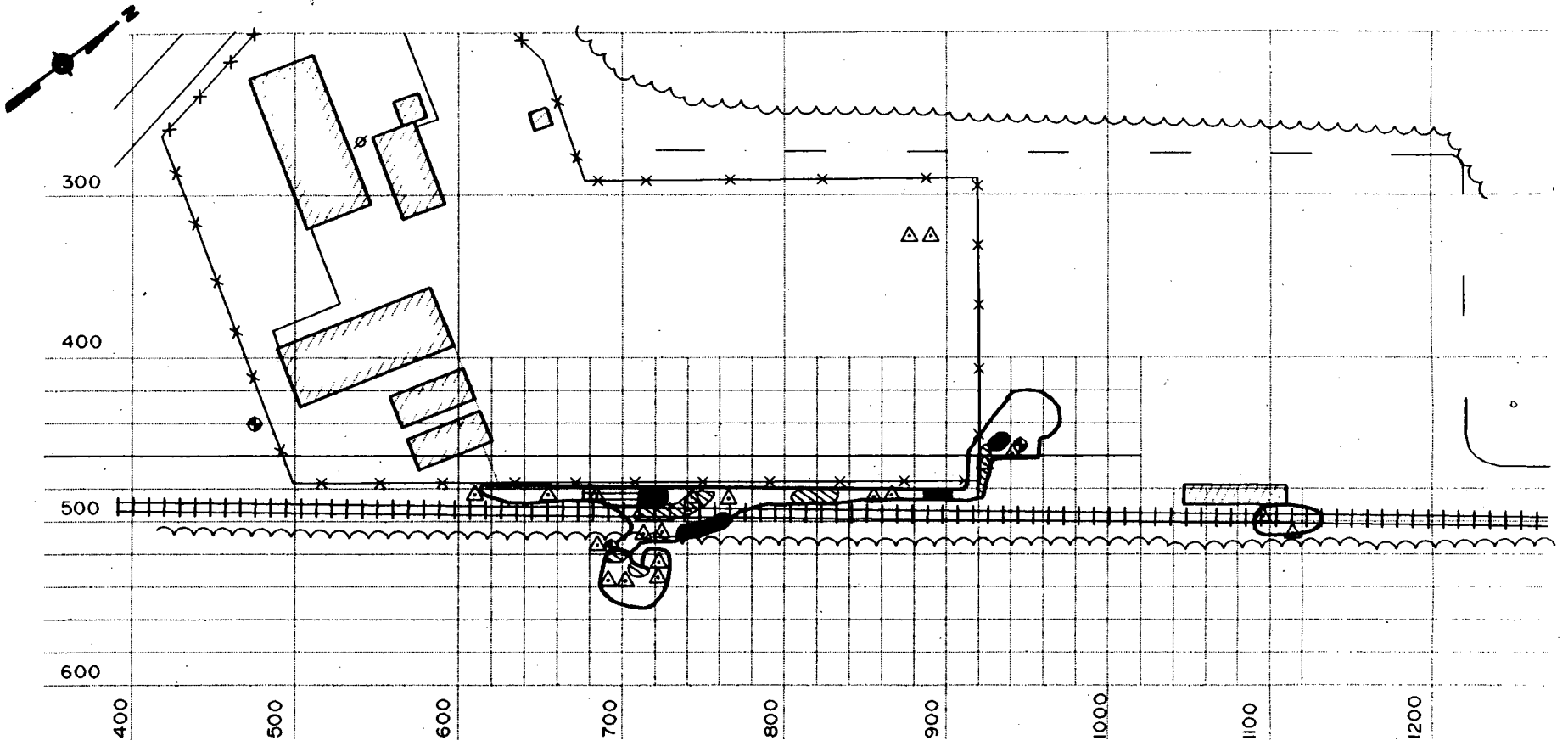

LEGEND:

- 1991 SOIL SAMPLE
- MONITORING WELL
- RAILROAD TRACK
- TREELINE
- GRIDLINES
- FENCE

EXCAVATION DEPTH

- = 12"
- = 18"
- = 24"
- = >24"

SOURCE

ABB ENVIRONMENTAL SERVICES, INC.
FEBRUARY 1992

100 0 100

SCALE IN FEET

DRMO SS-011
DEPTH OF EXCAVATION

FIGURE 4-1

A-4709

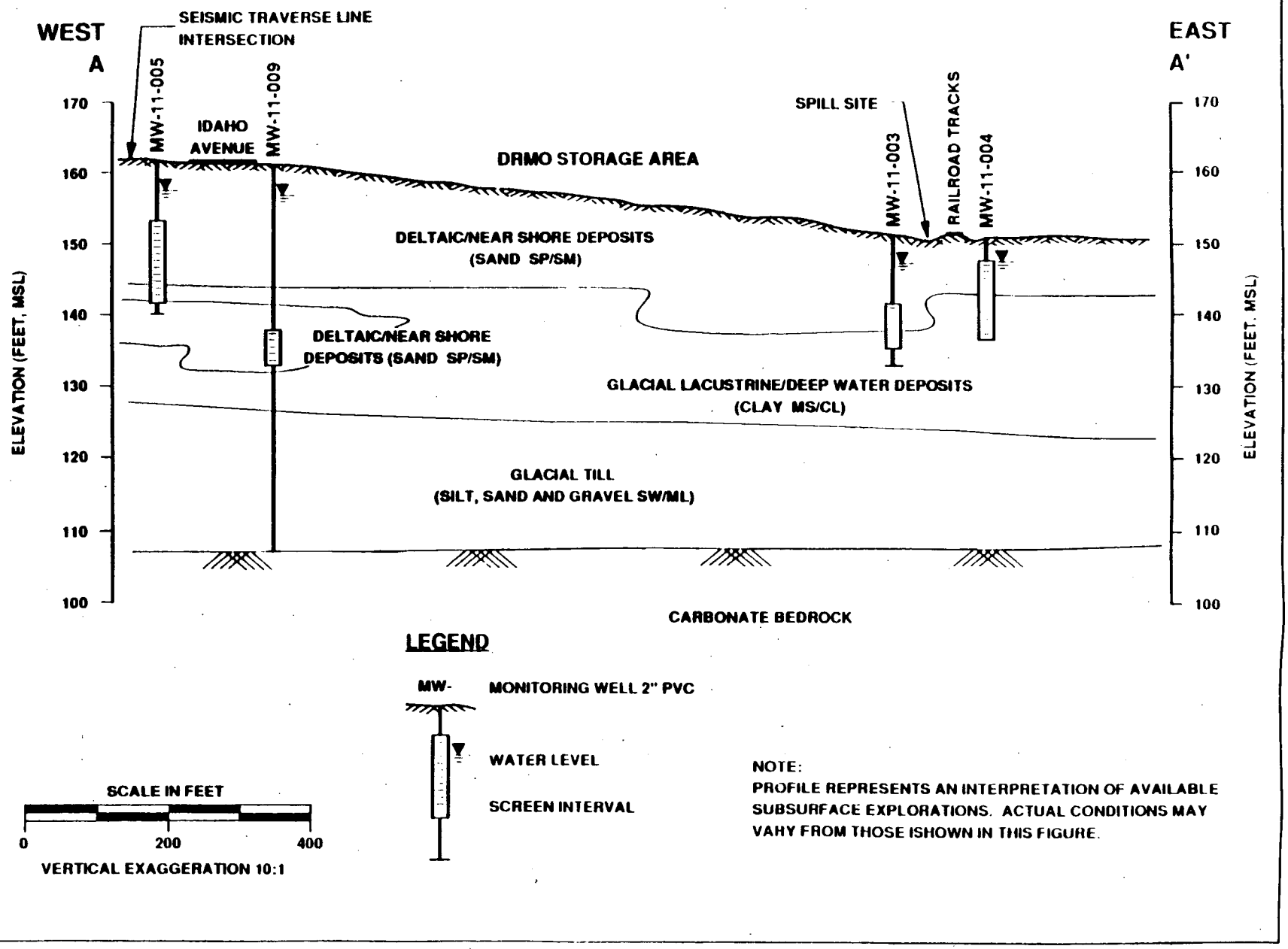

FIGURE 5-1 Interpreuve Geologic Profile A-A'

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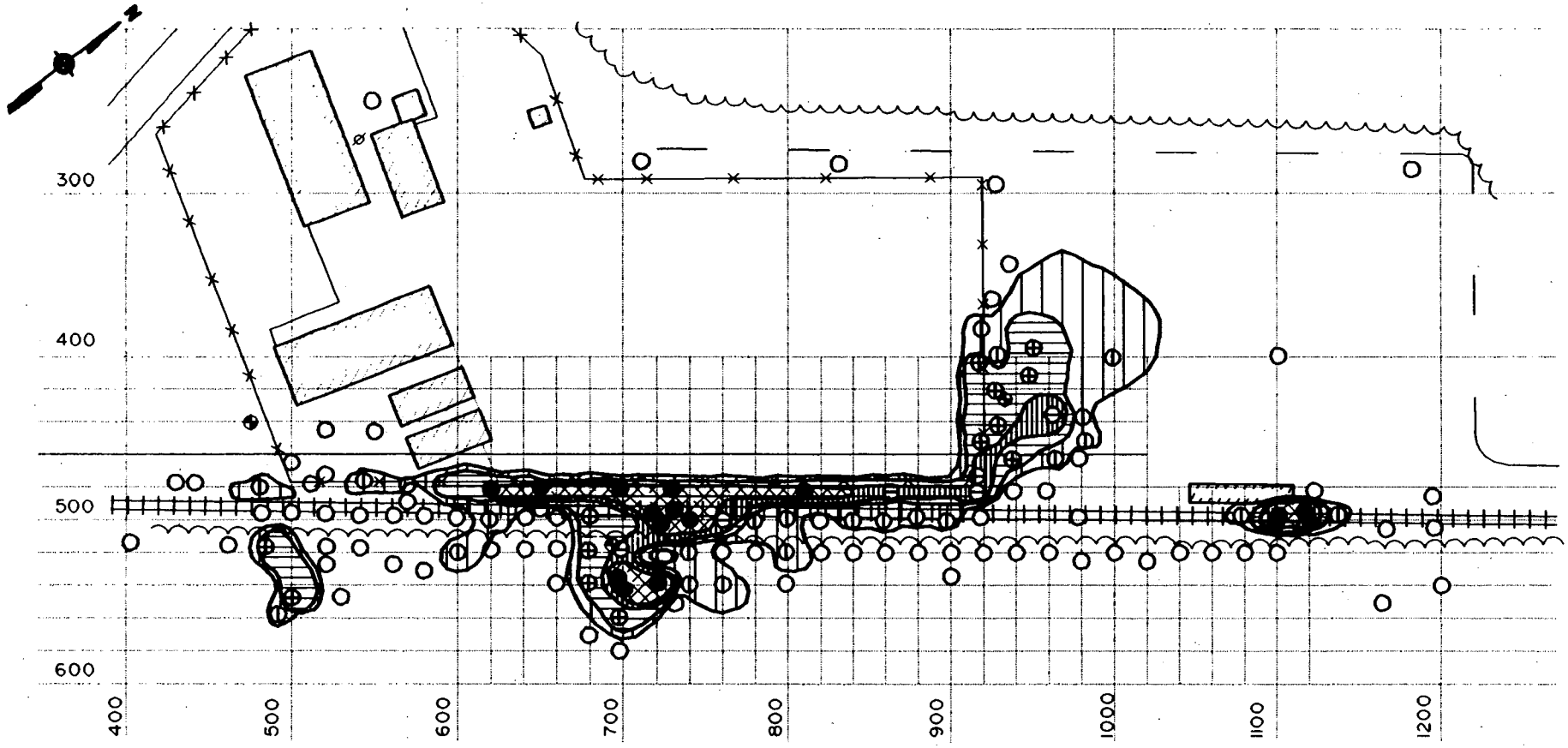

LEGEND:

- 1991 SOIL SAMPLE
- MONITORING WELL
- RAILROAD TRACK
- TREELINE
- GRIDLINES
- FENCE

LEGEND

- DDT < 0.27 MG/KG
- DDT 0.27 - 1.0 MG/KG
- DDT 1.0 - 10 MG/KG
- DDT 10 - 100 MG/KG
- DDT > 100 MG/KG

SOURCE

ABB ENVIRONMENTAL SERVICES, INC.
FEBRUARY 1992

100 0 100

SCALE IN FEET

SUMMARY OF DDT SCREENING DATA DRMO SS-011

FIGURE 5-3

Soil containing DDT at levels exceeding 10 mg/kg was excavated and removed from the site during the removal action (Section 4.0). Three confirmatory soil sample concentrations were found to marginally exceed the target cleanup level. The distribution of post-excavation residual DDT is depicted on Figure 5-4. Because hydrocarbons found at the DRMO are associated with the DDT, this removal action based on DDT level has removed most of the PHC-contaminated soil as well. No PCBs were detected in any soil sample taken in the vicinity of the transformer spill area. However, PCBs were detected near the pesticide spill, including one subsurface detection outside the excavated area and one at the base of the excavation.

Halogenated organic chemicals, especially TCE and DCE, are present at detectable concentrations in groundwater samples collected from wells upgradient of the DRMO. All analytes detected in onsite wells were also detected in the upgradient well network. Therefore, groundwater contamination present in wells on site is likely due to an upgradient source.

A more detailed description of the site's physical and chemical characteristics may be found in the Administrative Record.

6.0 SUMMARY OF SITE RISKS

A baseline risk assessment (RA) was conducted as part of the RI to evaluate whether site contaminants pose an unacceptable risk to public health or the environment.

6.1 Contaminated Media

Contaminated media evaluated in the RA for SS-011 include soils, both surface and shallow subsurface, and groundwater. Soil contamination at SS-011, attributable to reported spillage of containerized pesticides in a petroleum-based carrier, occurred along the eastern edge of the DRMO yard from 1970 through 1972. A removal action undertaken in August 1991 included excavation of soils contaminated with greater than 10 mg/kg of DDT and subsequent offsite disposal or incineration of the contaminated soil. In addition, a transformer (PCB oil) spill occurred during the winter of 1981 in the northwest corner of the paved yard. The spilled fluids were immediately cleaned off the frozen pavement surface and the area was excavated the following spring. The extent of PCB occurrence at the DRMO has been demonstrated by extensive surface and subsurface soil and groundwater sampling during the Remedial Investigation.

Some organic contaminants were detected in groundwater samples collected from the 3 monitoring wells located on site. A larger suite of chemicals, including all the contaminants detected at SS-011, has been detected in monitoring wells immediately upgradient from the DRMO. This suggests an upgradient source for some or all of the contaminants detected in groundwater at SS-011.

6.2 Contaminants of Concern

In order to make a comprehensive assessment of the human health risk posed by the contaminated media at SS-011, all analytes detected in non-excavated soil and groundwater at the site are considered to be contaminants of concern. These analytes are listed by matrix in Table 6-1.

6.3 Exposure Scenarios

Three human exposure scenarios were evaluated as part of the RA, including:

1) Present Use - Potentially exposed populations include base workers at the DRMO and youth trespassers (ages 6-18). The routes of exposure are limited to dermal contact with and incidental ingestion of contaminated surface soils.

2) Future Residential Construction - In this scenario, the base is considered closed and residential development of the SS-011 site is in the construction stage. Construction workers are the exposed population. Exposure would result from incidental ingestion, dermal contact, or inhalation of fugitive dust.

3) Completed Future Residential Development - In this scenario, the base is considered closed, residential development of SS-011 has been completed, and the development has been occupied. The exposed populations include children and adults exposed via dermal contact with or incidental ingestion of contaminated surface soils or subsurface soils that have been disturbed by construction activities. Ingestion of contaminated groundwater and inhalation of vapor-phase chemicals while showering (adults only) is also considered in this scenario.

6.4 Risks to Human Populations

Based upon the results of the RA, no threat to public health is posed by contaminants present at SS-011. No unacceptable carcinogenic or chronic risk based upon USEPA guidelines is evident given the Present Use and Future Residential Construction scenarios.

Analysis of risk given the Completed Future Residential Development scenario yields a hazard index (chronic risk) of less than one, which indicates that the noncarcinogenic risk is acceptable. The cancer risk is $2x10^{-5}$. This indicates that 20 additional persons out of one million are at risk of developing cancer if no further action is taken and the site is developed according to this scenario as outlined in the RA. This risk is within the acceptable range ($1x10^{-6}$ to $1x10^{-4}$) established for remedial action by the National Contingency Plan.

A summary of calculated carcinogenic and chronic risks for each exposure scenario is presented in Table 6-2.

6.5 Summary of Environmental Risks

An ecological exposure assessment, hazard identification, and risk assessment were undertaken to evaluate the potential for exposure of terrestrial receptors to chemicals at SS-011, and to quantify any adverse affects. Based upon this analysis, minimal individual effects and no significant population-level effects to ecological receptors are expected.

7.0 DESCRIPTION OF THE NO FURTHER ACTION PREFERRED ALTERNATIVE

The removal action undertaken in 1991 was considered to be protective of human health and the environment, and to be ARAR-compliant by NYSDEC and USEPA who approved the Target Cleanup Level on July 23, 1990. Sampling and analysis were conducted concurrently during removal activities, to determine the adequacy of the removal action, and for use in the baseline risk assessment (RA). Results of the RA show that the removal action was fully effective in achieving protection of human health and the environment. Therefore, no alternatives other than a No Further Action alternative were considered. No Further Action is the single and the preferred alternative. This alternative includes the following elements:

1) No further action will be undertaken at SS-011 to reduce site contaminants beyond their current levels.

2) Inspections will be conducted to assess the general condition of the site, including the progress of revegetation in areas disturbed by the removal action and the potential effects of runoff from or onto the site. The first inspection was completed in 1992. Future inspections are planned at 5-year intervals. After each inspection, an evaluation will be undertaken to insure the continued protection of human health and the environment.

9.0 STATE ROLE

NYSDEC, on behalf of the State of New York, has reviewed the RI, RA, and the preferred alternative, both from the viewpoint of health and environmental risk, and from the viewpoint of compliance with ARARs. NYSDEC concurs with the selection of the preferred alternative. A copy of NYSDEC's declaration of concurrence may be found in Appendix A.

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APPENDIX A

NYSDEC DECLARATION OF CONCURRENCE WITH PREFERRED ALTERNATIVE